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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,291	11/13/2003	Satoko Shitagaki	12732-174001 / US6725	5773
26171	7590	05/15/2007		
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER YAMNITZKY, MARIE ROSE	
			ART UNIT 1774	PAPER NUMBER
			MAIL DATE 05/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/706,291	Applicant(s) SHITAGAKI ET AL.	
	Examiner Marie R. Yamnitzky	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-19, 22-27 and 29 is/are allowed.
- 6) ☒ Claim(s) 15 and 21 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This Office action is in response to applicant's request for reconsideration filed March 05, 2007.

Claims 15-27 and 29 are pending.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claim 15 stands rejected under 35 U.S.C. 102(a) as being anticipated by JP 2003-40873 for reasons of record in the Office action mailed November 03, 2006.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 21 stands rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-40873 further in view of Li et al. (US 6,723,445 B2) for reasons of record in the Office action mailed November 03, 2006.

6. Claims 16-19, 22-27 and 29 stand allowed.

Claim 20 stands objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Applicant's arguments filed March 05, 2007 have been fully considered but they are not persuasive.

Applicant argues that a naphthylphenyl group as a whole is not an unsubstituted aryl group because the group is substantially non-planar and because it does not meet Hückel's Rule of $4n+2$ electrons.

The present disclosure as originally filed does not explicitly define "unsubstituted aryl" and does not provide any specific examples of groups considered to be encompassed by "unsubstituted aryl".

Regarding applicant's argument that non-planar systems are not aromatic, the examiner notes that pp. 37-38 of March, *Advanced Organic Chemistry*, 4th ed., 1987, (copy provided by applicant) show that this is not always the case. The paragraph bridging pp. 37-38 teaches a boat-shaped benzene ring with one end of the boat bending about 27° out of plane and the other end of the boat bending about 12° out of plane as being aromatic.

Based on applicant's argument regarding Hückel's Rule, the biphenyl groups in the quinoxaline derivative of formula 32 (Synthesis Example 12 in the present specification) must be substituted aryl groups since a biphenyl group does not meet Hückel's Rule. However, it is the

Art Unit: 1774

examiner's position that a biphenyl group can be considered as a whole to be an unsubstituted aryl group. Applicant's arguments do not take into account the teachings of the prior art and the fact that groups such as biphenyl are often identified in the art as aryl groups. Paragraph [0010] of JP 2003-40873 names biphenyl as an example of an aryl group. As another example of prior art usage of the term "aryl", paragraph [0038] of 9-188874 (previously cited by applicant, machine translation previously provided by examiner) teaches "the aryl group...may be polycyclic (condensed multi-ring and ring set)...As an example of the aryl group...2-biphenyl radical, 3-biphenyl radical, and 4-biphenyl radical, are mentioned."

Without any explicit teachings in the original disclosure to exclude groups having multiple aromatic rings covalently bonded together from the scope of "unsubstituted aryl", the examiner maintains the position that a naphthylphenyl group meets the limitations of an unsubstituted aryl group.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1774

9. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 7:00 a.m. to 3:30 p.m. Monday-Friday.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
May 10, 2007

Marie R. Yamnitzky

**MARIE YAMNITZKY
PRIMARY EXAMINER**

1774